FORMULAS FOR ELIXIRS

ADOPTED BY THE

American Pharmaceutical Association

AT ITS TWENTY-FIRST ANNUAL MEETING,
HELD IN RICHMOND, VIRGINIA, SEPTEMBER, 1873,

AND

RECOMMENDED TO BE USED BY PHYSICIANS
AND PHARMACISTS.

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To the Medical Societies of the United States:

At the Twenty-First Annual Meeting of the American Pharmaceutical Association, held in the City of Richmond, Va., in September last, a Report on Formulas for Elixirs was read, and the following resolution was then adopted:

"*Resolved,* That this report be adopted, with the recommendation that these formulas be used by the members of the Association, and that the Secretary be instructed to send a printed copy of this report to the medical societies of the Union, with the suggestion that physicians, if prescribing elixirs at all, prescribe only such formulas as have been adopted by this Association."

The undersigned takes pleasure to send herewith a copy of the above-mentioned report, containing formulas for a number of so-called medicinal elixirs. It being desirable that even unofficinal preparations should be uniformly made throughout the country, it is hoped that your honorable body may deem it expedient to take such action in this matter as may tend to secure this much-desired uniformity.

Very respectfully,

John M. Maisch, Phar.D.,

Permanent Secretary American Pharmaceutical Association.

145 North Tenth Street,
Philadelphia, December, 1873.

REPORT.

"*Resolved*, That a committee of five be appointed by the President, to take into consideration the subject of elixirs and similar unofficinal preparations, in all its bearings upon pharmacy, and if deemed proper, to report suitable formulas for the guidance of the members of this Association."

The universal solvent has been long sought for, but has not, and most likely will never be found, and it is quite as unlikely that the formula for a simple elixir will be found which will afford a preparation that will meet all the requirements of a medicating vehicle ; yet it may be possible to meet the general indications of a simple elixir, by which many unpleasant medicines can be modified in taste and odor, and rendered tolerant to the most delicate stomach, without modifying or changing in the least their therapeutic properties.

To arrive at most satisfactory results, a series of careful experiments were instituted, which we believe have furnished good results. The formulas resulting from our experiments, which we herewith have the honor to present, are accompanied with corresponding preparations. It will be observed that this report has its restricted limits, and it is not our purpose to recommend a long list of useless combinations, which might savor of empiricism and tend to deceive physicians.

In our conclusions we may be criticized by those who have apparently accomplished the task of constructing formulas for simple elixirs, as also those who have adopted such formulas. In this, however, we have no aspirations to vainglory, but have simply followed in the track of duty, performing to the best of our abilities the task imposed upon us. Therefore we invite the scrutiny of this Association, before any final judgment has been passed upon our work.

Elixirs are not a new class of preparations: on the contrary, they are very old; and after all they remind us of the adage, "Nothing new under the sun."

We doubt very much that the elixirs of any age ever partook more of the character of nostrums than those of the present day, and were it not for the fact that we are conscious that all trades, professions, and classes of men have their follies, we would express horror at the pharmaceutical folly, as manifested in the modern elixirs; nor is there anything which reminds us more of the "Mithridate" of old, or the "Theriaca" of mediæval times, than the class of pharmaceuticals known as elixirs.

For if we examine, it will be found that almost all contributors to the elixir literature have indicated their respective formulas by the greatest multiplicity of ingredients; indeed, they sometimes exhibit the greatest variety of remedies, representing the three grand divisions of nature,—animal, vegetable, and mineral; for instance, elixir of beef, bark, and iron, &c.

The greatest commendations which we can bestow upon elixirs as a class is, that they are too feeble to do much harm, even when they contain strychnia, and that they act splendidly as placebos; particularly is this the case with those purporting to contain the *bitter alkaloids*, and are so very pleasant to the taste, that scarcely a particle of bitter can be detected. Just here your committee deem it proper to state, that they have not been able to overtake some of the elixir manufacturers, in the act of giving quinia, strychnia, and other bitter remedies, in clear solution, without giving at the same time their characteristic bitter taste. This may be for want of greater experience in this line, or perhaps for want of a more profound understanding of the pharmaceutic art, in the domain of *elegant pharmacy;* or it may be for want of a better understanding of the demands of the medical profession and the public for pleasant medicines. We have endeavored (as the accompanying samples will attest) to place the ingredients indicated by the formulas in the vials, while those who have excelled us in the art of completely masking bitterness, may possibly have the active principles only represented by the label. Indeed, we may be excused for such a conclusion, from the fact, that it has been discovered, that many of the so-called preparations of phosphate of iron are made by substituting pyrophosphate of iron, and that many of the elixirs of Calisaya bark, *so called*, are not made with the *bark*, but from variable proportions of one or more of its salts ; ferrated elixir of Calisaya, and many other elixirs, stand in the same deceptive list. This may or may not be warranted, from the plea of precedence, but respect for truth and consistency compels an adverse judgment on our part; and to finally meet this pharmaceutical depravity, your committee would most respectfully recommend a correction of the elixir nomenclature, and when possible, to give names that will correctly represent the compounds in question.

It therefore becomes necessary to drop the names elixir of Calisaya bark, ferrated elixir of Calisaya, and the like, unless made from the bark. If made with quinia or cinchonia, iron, &c., the name should be given so as to represent that the preparation is the simple elixir ferrated with quinia, or the name of whatever active medicines may be combined with the simple elixir and iron.

It is advisable that physicians should abandon the popular habit of ordering A., B., and C.'s elixirs, particularly if they are proprietary, and the formulas withheld from pharmacists and physicians, which, as a rule, is unjust to the dispensing pharmacist, who is in most cases fully as competent to make the compounds *secundum artem* as is the special elixir manufacturer. The manufacture of preparations for, and the compounding of, physicians' prescriptions, should be an open competition, intrusted only to thoroughly qualified pharmacists. If this be granted, it is then unfair for the physician to command the pharmacist of one city to employ a pharmacist in a distant city to prepare the remedies for his prescriptions, except in very remarkable cases. It is further suggested, that physicians use the simple elixir or red elixir, and extemporize with them such remedies and in such proportions as the individual cases may indicate, regardless of the beautiful appearance of the preparations, whether or not they be *solution* or *mixture*. The pleasant taste and odor of the simple elixir qualifies it pre-eminently as a vehicle for the administration of quinia, strychnia, iron, bismuth, pepsin, &c., as also any of the solid and fluid extracts. The extemporized elixirs should not be filtered, but always dispensed, if necessary, with the direction: "Shake the vial before pouring out each dose," as by filtration the medicinal quality of the elixir is sometimes sacrificed for the sake of good appearance.

The members of the committee being absent except its chairman, some confusion is experienced in making this report, from the fact that two others of the committee have suggested some formulas, which, being at variance with our views, because of the multiplicity of ingredients, are omitted. Therefore, the report which we now have the honor to present, is essentially a minority report, or only that of the chairman of the committee. The plan which we respectfully recommend is similar to that adopted by Professor C. Lewis Diehl, which was published some time ago in the pharmaceutical journals, viz., the adoption of a formula for simple elixir, to be used as a general medicating vehicle; and to fully meet the reasonable demand for elixirs, a list of formulas is herewith submitted, simple in construction, easy of manipulation, and believed to be fully as efficient in medicinal properties as are those more complex.

In our aim at simplicity, we have endeavored to harmonize with the treatise of Professor Diehl on the subject, and in some cases have given his formulas, as will be shown by notes of explanation. In all cases, however, where simple elixir is ordered, that made from the formula given in this report is intended.

For want of time, and owing to ill health during the early part of this year, the subject has not received that thorough attention which it was our intention to give. Experience suggests the inexpediency of continuing the committee, because the members have not the convenience of easy communication, living as they do in remote parts of the country; and, believing that one member of the Association, drawing his information from various sources, can make a more satisfactory report than the several members of a committee, we would advise that the committee be discharged from the further consideration of the subject, and that the whole question be referred to the Committee on Unofficinal Formulas. Should the Committee on Unofficinal Formulas give that attention to the work which it so richly merits, an interesting and profitable report may be expected at the next annual meeting of this Association.

Should this committee act in an eclectic capacity, doubtless much valuable information will be gained that may be useful to the Committee on Revision of the Pharmacopœia. The investigation should not be restricted to any particular branch of pharmacy, but include the entire range of unofficinal formulas.

UNOFFICINAL FORMULAS.

REPORTED BY J. F. HANCOCK.

Compound Powder of Cochineal.

Take of Cochineal in powder,	120 grains.
Alum, in powder,	120 grains.
Carbonate of Potassium,	120 grains.
Bitartrate of Potassium,	240 grains.

Mix. Keep in well-stoppered vial.

Compound Tincture of Cochineal.

Take of Compound Powder of Cochineal,	120 grains.
Diluted Alcohol,	2 fluid ounces.

Slightly warm the diluted alcohol and mix with the powder, macerate in a stoppered vial for twelve hours, and filter for use. This is permanent, and imparts a beautiful red color to elixirs and solutions which have no acid properties.

Spirit of Orange.

Take of Oil of Sweet Orange,	1 fluid ounce.
Stronger Alcohol,	15 fluid ounces.

Mix. This is made in proportions to conform with the spirits of the U. S. P., and is a pleasant and convenient form of orange flavor.

Simple Elixir.

Take of Spirit of Orange,	½ fluid ounce.
Stronger Alcohol,	4 fluid ounces.
Cinnamon Water,	6 fluid ounces.
Syrup,	6 fluid ounces.

Mix.

This is a turbid mixture. For many purposes it is not necessary to filter before using, but generally it should be clear, particularly when used for physicians prescriptions, and in making some elixirs. Filtering-paper pulp. made by beating scraps of chemically pure filtering-paper in a mortar, in the proportion of sixty grains of paper to half fluid ounce of water, added to sixteen fluid ounces of the elixir, agitated briskly for a few moments, and filtered, renders the elixir perfectly limpid. The paper is free from the chemical objections urged against carbonate of magnesium, chalk, &c., which are frequently used as clarifying agents.

The very pleasant taste and odor of this elixir, its freedom from color and chemical impurities, commends it for general use as a medicating vehicle.

Red Elixir.

Take of Comp. Tincture of Cochineal,	½ fluid ounce.
Simple Elixir,	16 fluid ounces.

Mix.

This is sometimes preferred as a simple elixir because of its beautiful color.

Elixir of Calisaya Bark.

Take of Tinct. Cinchona, U. S. P., 1870,	22 fluidrachms.
Simple Elixir,	sufficient to make 16 fluid ounces.

Mix and filter. This contains *the virtues* of two grains of Calisaya bark in one fluidrachm.

Elixir of Calisaya Bark with Iron.

Take of Elixir of Calisaya Bark,	15 fluid ounces.
Warm Distilled Water,	1 fluid ounce.
Citrate of Iron, *soluble*,	128 grains.

Dissolve the iron in the warm water and add the elixir. Filter if necessary. Each fluidrachm of the unfiltered elixir contains one grain of the iron salt, and the virtues of nearly two grains of Calisaya bark.

Compound Elixir of Cinchona.

Take of Compound Tinct. of Cinchona, U. S. P., 1870,	22 fluidrachms.
Simple Elixir,	sufficient to make 16 fluid ounces.

Mix and filter. If not required for immediate use, this and also the Calisaya elixir should stand for about twelve hours before filtering.

Compound Elixir of Cinchona with Iron.

Take of Compound Elixir of Cinchona,	15 fluid ounces.
Warm Distilled Water,	1 fluid ounce.
Citrate of Iron, *soluble*,	120 grains.

Mix. Proceed as for Elixir of Calisaya with Iron.

Elixir of Citrate of Iron.

Take of Citrate of Iron, *soluble*,	256 grains.
Warm Distilled Water,	1 fluid ounce.
Simple Elixir,	15 fluid ounces.

Dissolve the iron in the warm water and mix with the simple elixir. Filter.

Elixir of Pyrophosphate of Iron.

Take of Pyrophosphate of Iron,	256 grains.
Warm Distilled Water,	1 fluid ounce.
Simple Elixir,	15 fluid ounces.

Make according to directions for Elixir of Citrate of Iron.

This is the same in medicinal strength as Professor Diehl's formula.

Elixir of Citrate of Bismuth.

Take of Citrate of Bismuth and Ammonium,	256 grains.
Warm Distilled Water,	4 fluid ounces.
Water of Ammonia (drop by drop),	sufficient.
Simple Elixir,	sufficient to make sixteen fluid ounces of finished elixir.

This is the same bismuth strength as Professor Diehl's formula, viz., two grains of citrate of bismuth and ammonium in each fluidrachm.

Elixir of Pepsin.

Take of Saccharated Pepsin, Scheffer's formula,	256 grains.
Sherry Wine,	14 fluid ounces.
Simple Syrup,	2 fluid ounces.
Fluid Extract of Ginger,	25 drops.

Dissolve the pepsin in the wine, mix the fluid extract of ginger with the syrup, and mix altogether. Filter if necessary. Contains two grains of pepsin to the fluidrachm.

Elixir of Valerianate of Ammonium.

Take of Valerianate of Ammonium in crystals,	256 grains.
Compound Tinct. of Cochineal,	½ fluid ounce.
Simple Elixir,	15½ fluid ounces.

Dissolve the valerianate of ammonium in two ounces of the simple elixir, and carefully add water of ammonia until the solution is exactly neutral to test-paper. Mix with the balance of simple elixir, and then add the compound tincture of cochineal.

This is the formula of Professor C. Lewis Diehl, with the exception of the simple elixir. Notwithstanding this preparation contains a larger quantity than usual of the valerianate of ammonium (two grains of the salt in each fluidrachm), yet its unpleasant taste and odor is effectually masked by the fragrance of the simple elixir.

Elixir of Valerianate of Ammonium with Quinia.

Take of Sulphate of Quinia,	128 grains.
Elixir of Valerianate of Ammonium,	16 fluid ounces.

Mix. Filter if necessary. Sulphate of quinia is soluble in elixir of valerianate of ammonium to twice the quantity here ordered.

Compound Elixir of Sumbul.

Take of Tincture of Sumbul (Brit. Ph. 1867),[*]	4 fluid ounces.
Syrup,	4 fluid ounces.
Compound Tincture of Cochineal,	½ fluid ounce.
Elixir of Valerianate of Ammonium,	8 fluid ounces.

Mix.

The elixir is slightly turbid, owing to the resin of the sumbul, which, if filtered out, must lessen its medicinal powers. This is given as a type of *extemporaneous elixirs*, which should not be filtered, but dispensed with the direction, "*Shake the vial before pouring out each dose.*"

Elixir Pyrophosphate of Iron, Quinia, and Strychnia.

(C. Lewis Diehl's Formula.)

He says: "This requires particular manipulation, which precludes the use of simple elixirs.

"The following formula, the result of concert experiments of my friend, Mr. E. Scheffer, and myself, has been used by me since autumn, 1869, and I can recommend it as uniformly successful, when the manipulations are carefully conducted:

"Take of Sulphate of Quinia,	60 grains.
Strychnia,	1 grain.
Citric Acid,	5 grains.
Stronger Alcohol,	3 fluid ounces.
Spirit of Orange,	80 minims.
Syrup,	6 fluid ounces.
Pyrophosphate of Iron,	½ troy ounce.
Distilled Water,	7 fluid ounces.
Water of Ammonia,	suff. quantity.

"Triturate the sulphate of quinia, strychnia, and citric acid together, until minutely divided, then add the alcohol and spirit of orange. Warm the syrup slightly (to about 150° F.), and add to the turbid mixture, when, upon stirring, the mixture becomes clear. To this add the pyrophosphate of iron, previously dissolved in the distilled water, and finally, carefully add water of

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[*] This is made by macerating and displacing two and a half ounces avoirdupois of powdered sumbul with proof spirit, so as to obtain one imperial pint (f℥xix, fʒiss., U. S. measure) of tincture.—EDITOR.

ammonia, drop by drop, until the elixir is perfectly neutral to test-paper; filter. The finished preparation has a greenish-yellow color, a pleasant flavor of orange, and is permanent."

Bitter Wine of Iron.

(James T. Shinn's Formula, slightly modified.)

We have had several years' experience with the following formula, and it has given entire satisfaction to prescriber, dispenser, and consumer.

Take of Sulphate of Cinchonia,	45 grains.
Sulphate of Quinia,	15 grains.
Citric Acid,	60 grains.
Citrate of Iron, *soluble*,	240 grains.
Concentrated Tinct. Fresh Sweet Orange-peel,	3 fluid ounces.
Distilled Water,	3 fluid ounces.
Sherry Wine,	8 fluid ounces.
Syrup,	2 fluid ounces.

Dissolve the sulphates and citric acid in two ounces of the water, and the iron in the remaining ounce of water: mix the two solutions, and add the other ingredients, previously well mixed together.

The only change from the original formula is in the kind and quantity of orange flavor, for which we claim an improvement. See *Proceedings of American Pharmaceutical Association*, 1864, p. 234.

Elixir of Gentian with Iron.

Take of Extract of Gentian,	128 grains.
Citrate of Iron, *soluble*,	128 grains.
Distilled Water,	1 fluid ounce.
Simple Elixir,	15 fluid ounces.

Dissolve the extract and iron in the water, *warmed*, and add the simple elixir: filter.

Elixir of Bromide of Potassium.

Take of Bromide of Potassium,	640 grains.
Red Elixir,	16 fluid ounces.

Mix.

This contains five grains of the salt in each fluidrachm, and is given as a type. The red elixir does not seem to answer for the elixir bromide of calcium; caramel is a more suitable coloring substance for the calcium elixir. We prefer the simple elixir in this case, and to use no coloring substance.

Syrup of Licorice Root.

Take of select Licorice Root in moderately coarse powder,	4 troy ounces.
Diluted Alcohol,	sufficient quantity.
Sugar,	12 troy ounces.

Moisten and pack in a conical percolator; macerate for twelve hours, percolate to exhaustion. Place the tincture over a water-bath until reduced to ten fluid ounces, filter, and then add the sugar; lastly, sufficient distilled water to make sixteen fluid ounces of finished syrup.

The syrup of licorice root, when carefully prepared, is more effectual and more convenient for masking the bitterness of quinia, than is the very popular "compound elixir of taraxacum," and being free from the stimulating influence of alcohol, which is present in the elixir, is well adapted for children. The proper proportions will be one grain of quinia (any salt of it), to the fluidrachm, and if those for whom quinia is ordered, will take the precaution to chew a small quantity of licorice root, previous to taking the quinia mixed with the syrup of licorice, in the proportions here recommended, scarcely any bitterness will be observed. As a matter of course, acids mixed with quinia and licorice syrup, will immediately develop the bitter taste.

It has of late become fashionable to use glycerin as an antiseptic and solvent in elixirs, as well as other compounds of pharmacy, but our aversion to the general use of glycerin for internal administration, for various reasons, has prevented its introduction in our formulas.

The results of our investigations of liquid pepsin preparations, will not warrant the introduction of more than the one formula, which is really a wine of pepsin, and has been found useful in many cases.